

(19) World Intellectual Property  
Organization  
International Bureau



553784

(43) International Publication Date  
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number  
**WO 2004/094904 A1**

(51) International Patent Classification<sup>7</sup>: **F23G 5/00**

(21) International Application Number:  
PCT/IB2004/001220

(22) International Filing Date: 22 April 2004 (22.04.2004)

(25) Filing Language: Italian

(26) Publication Language: English

(30) Priority Data:  
BO2003A000242 23 April 2003 (23.04.2003) IT

(71) Applicant (for all designated States except US): ITEA  
S.P.A. [IT/IT]; Via Pollastri, 6, I-40138 Bologna (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ROSSETTI**,  
Edoardo [IT/IT]; Via S. Luca, 9/3, I-40135 Bologna (IT).  
**MALAVASI**, Massimo [IT/IT]; Via Santa Marta, 13,  
I-20123 Milano (IT).

(74) Agents: **PROVVISIONATO**, Paolo et al.; Provvisionato & Co. S.r.l., Piazza di Porta Mascarella, 7, I-40126 Bologna (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

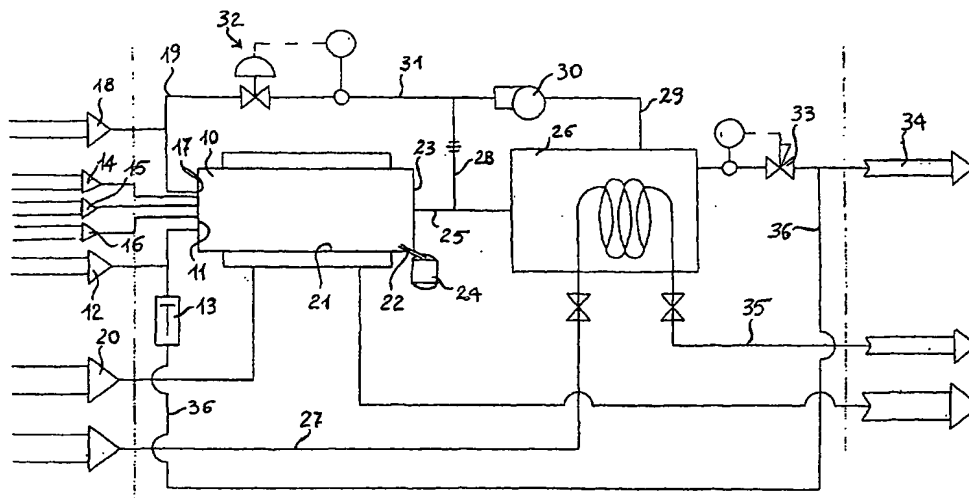
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,

[Continued on next page]

(54) Title: METHOD AND PLANT FOR THE TREATMENT OF MATERIALS, IN PARTICULAR WASTE MATERIALS AND REFUSE



(57) Abstract: A plant for the treatment of materials, in particular waste materials and refuse, comprises a combustion reactor (10) to which the material to be treated can be supplied. The combustion reactor has an input (17) for a combustion supporter comprising oxygen and an output (34) for the gases that are produced during the combustion of the material inside the reactor (10) and, in use, is substantially isothermic or quasi-isothermic at high or very high temperature, and without substantial oxygen deficit, in all of its parts. A portion of the combustion gases is recirculated and mixed with the combustion supporter to bring about a high degree of opacification thereof, which is increased by increasing the total pressure of the combustion chamber. The substances which cannot be gasified inside the reactor are immediately fused. The parameters of the gases at the output from the reactor are constantly measured by sensors with response-time characteristics of about 2 seconds.

WO 2004/094904 A1



EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- of inventorship (Rule 4.17(iv)) for US only

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.